In the Claims

This listing of claims will replace all prior versions and listings of claims in the application:

Claims 1 to 9. (Cancelled)

1   10.   (Previously Presented) A method for generating digital filter
2   coefficients for tuning a hearing aid employing digital audio
3   processing to enhance hearing ability of an individual comprising:
4          fitting said hearing aid to said individual;
5          connecting said hearing aid to a source of audio digital
6   signals;
7          providing said individual with a device to generate indication
8   signals at will;
9          generating and providing a first series of audio digital
10  signals to said hearing aid, each digital signal in said first
11  series of signals corresponding to an analog audio signal having a
12  selected frequency and multiple power levels;
13         at said hearing aid converting each of said series of digital
14  signals into said corresponding analog audio signal;
15         receiving said indication signal during said generation of a
16  signal of a selected frequency indicative of said individual
17  hearing said selected frequency;
18         providing a digital audio processing unit in said hearing aid
19  for processing received audio digital signals corresponding to
20  analog audio signals and providing processed audio digital data,
21  including applying digital audio filters for tuning said hearing
22  aid characterized by generating digital filter coefficients in
23  algorithms applied to said received audio digital signals to effect
24  said digital audio filters;
25         providing a digital computer connected to receive said first
26  series of audio digital signals and said indication signals to

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27  generate digital data representative of said individual's hearing
28  ability using said hearing aid without filters determined from said
29  first series of digital signals, said computer programmed to
30  determine said digital filter coefficients for digital filters for
31  tuning said hearing aid and providing said coefficients to said
32  digital audio processing unit in said hearing aid.

1   11.   (Currently Amended) A method according to Claim 10, wherein
2   said digital computer is programmed to determine said digital
3   filter coefficients by
4       providing second digital data for a tolerance range for a
5   target response curve ability of representative of said
6   individual's enhanced hearing ability of sound level versus
7   frequency;
8       providing first digital data representative of an initial
9   response curve of said individual's hearing ability of sound level
10  versus frequency;
11      comparing said second digital data to said first digital data
12  and determining whether said response curve is within said
13  tolerance range; and
14      if said response curve is not within said tolerance range,
15          iteratively generating digital filter coefficients
16          controlling center frequency, filter bandwidth and amplitude
17          for a succession of additional digital audio filters,
18          applying digital audio filters determined by said digital
19          filter coefficients to said first digital data to generate
20          third digital data for a compensated response curve, and
21          automatically optimizing said digital filter coefficients
22          by optimizing the center frequency, amplitude and filter
23          bandwidth of said digital audio filters until said compensated
24          response curve is within said tolerance range or a

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25    predetermined limit on the number of digital audio filters has
26       been reached, whichever occurs first.

Claims 12 and 13.    (Cancelled)

1   14.   (Previously Presented) An apparatus for generating digital
2   filter coefficients for tuning a hearing aid digital audio
3   processing for use by an individual, comprising:
4       a source of first audio digital data corresponding to analog
5   audio signals having a selected frequency and multiple power
6   levels;
7       a digital audio processing unit in said hearing aid for
8   processing said first audio digital data according to at least one
9   digital filter having digital filter coefficients controlling
10  filter center frequency, amplitude and filter bandwidth and
11  providing processed audio digital data, including applying digital
12  audio filters for tuning said hearing aid characterized by
13  coefficients in algorithms applied to said first audio digital data
14  to effect said digital audio filters;
15      a digital to analog converter receiving said processed digital
16  data from said digital audio processing unit and converting said
17  processed digital data into a corresponding analog audio signal;
18      a speaker receiving said analog audio signal from said digital
19  to analog converter and producing corresponding sound to the
20  individual;
21      a device for generating indication signals indicative of said
22  individual receiving said sound; and
23      a digital computer connected to receive said first audio
24  digital data and said indication signals, said digital computer
25  programmed to determine said digital filter coefficients for
26  digital filters for tuning said hearing aid and provide said
27  coefficients to said digital audio processing unit.

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1  15.  (Previously Presented) An apparatus according to Claim 14,
2  wherein said digital computer is programmed to generate second
3  digital data representative of said individual hearing ability when
4  using said hearing aid without filters determined from said first
5  audio digital data and said indication signals and to determine
6  said coefficients by

7      providing third digital data for a tolerance range for a
8  target response curve of enhanced hearing of sound level versus
9  frequency;

10     providing said second digital data, wherein said second
11 digital data represents an initial response curve of hearing
12 ability of sound level versus frequency;

13     comparing said third digital data to said second digital data
14 and determining whether said initial response curve is within said
15 tolerance range; and

16     if said initial response curve is not within said tolerance
17 range,

18         iteratively generating digital filter coefficients
19         controlling center frequency, filter bandwidth and amplitude
20         for a succession of additional digital audio filters,

21         applying digital audio filters determined by said digital
22         filter coefficients to said second digital data to generate
23         fourth digital data for a compensated response curve, and

24         automatically optimizing said digital filter coefficients
25         by optimizing the center frequency, amplitude and filter
26         bandwidth of said digital audio filters until said compensated
27         response curve is within said tolerance range or a
28         predetermined limit on the number of digital audio filters has
29         been reached, whichever occurs first.

Claims 16 to 20.     (Cancelled)

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